



Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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**STATE WATER CONTROL BOARD
ENFORCEMENT ACTION - ORDER BY CONSENT
ISSUED TO
ADVANSIX RESINS & CHEMICALS, LLC
FOR THE
CHESTERFIELD PLANT
VPDES Permit No. VA0005312**

SECTION A: Purpose

This is a Consent Order issued under the authority of Va. Code § 62.1-44.15, between the State Water Control Board and AdvanSix Resins & Chemicals, LLC, regarding the AdvanSix Chesterfield Facility, for the purpose of resolving certain violations of the State Water Control Law and the applicable permit and regulation.

SECTION B: Definitions

Unless the context clearly indicates otherwise, the following words and terms have the meaning assigned to them below:

1. "305(b) report" means the report required by Section 305(b) of the Clean Water Act (33 United States Code § 1315(b)), and Va. Code § 62.1-44.19:5 for providing Congress and the public an accurate and comprehensive assessment of the quality of State surface waters.
2. "AdvanSix" means AdvanSix Resins & Chemicals, LLC, a limited liability company authorized to do business in Virginia. AdvanSix is a "person" within the meaning of Va. Code § 62.1-44.3.
3. "Board" means the State Water Control Board, a permanent citizens' board of the Commonwealth of Virginia, as described in Va. Code §§ 10.1-1184 and 62.1-44.7.

4. "Department" or "DEQ" means the Department of Environmental Quality, an agency of the Commonwealth of Virginia, as described in Va. Code § 10.1-1183.
5. "Director" means the Director of the Department of Environmental Quality, as described in Va. Code § 10.1-1185.
6. "Discharge" means discharge of a pollutant. 9 VAC 25-31-10.
7. "Discharge of a pollutant" when used with reference to the requirements of the VPDES permit program means:
 - (a) Any addition of any pollutant or combination of pollutants to surface waters from any point source; or
 - (b) Any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation.
8. "DMR" means discharge monitoring report."
9. "EPA" means Environmental Protection Agency.
10. "Effluent" means wastewater – treated or untreated – that flows out of a treatment plant, sewer, or industrial outfall.
11. "Facility" means the Plant located at 4101 Bermuda Hundred Road, Chester, Virginia, which discharges effluent from AdvanSix's business operations. The Facility has multiple outfalls including Outfall 001, Outfall 002, and Outfall 003.
12. "Notice of Violation" or "NOV" means a type of Notice of Alleged Violation under Va. Code § 62.1-44.15.
13. "NRR" means Nylon Recycle and Recovery.
14. "O&M" means operations and maintenance.
15. "Order" means this document, also known as a "Consent Order" or "Order by Consent," a type of Special Order under the State Water Control Law.
16. "PCB" means polychlorinated biphenyl.
17. "Permit" means VPDES Permit No. VA0005312, which the Board issued under the State Water Control Law and the Regulation to AdvanSix on April 1, 2013 and which expired on March 31, 2018. The Department reissued the Permit on July 12, 2018.

18. "Pollutant" means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 USC § 2011 *et seq.*)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water... 9 VAC 25-31-10.
19. "Pollution" means such alteration of the physical, chemical, or biological properties of any state waters as will or is likely to create a nuisance or render such waters (a) harmful or detrimental or injurious to the public health, safety, or welfare or to the health of animals, fish, or aquatic life; (b) unsuitable with reasonable treatment for use as present or possible future sources of public water supply; or (c) unsuitable for recreational, commercial, industrial, agricultural, or other reasonable uses, provided that (i) an alteration of the physical, chemical, or biological property of state waters or a discharge or deposit of sewage, industrial wastes or other wastes to state waters by any owner which by itself is not sufficient to cause pollution but which, in combination with such alteration of or discharge or deposit to state waters by other owners, is sufficient to cause pollution; (ii) the discharge of untreated sewage by any owner into state waters; and (iii) contributing to the contravention of standards of water quality duly established by the Board, are "pollution." Va. Code § 62.1-44.3.
20. "PRO" means the Piedmont Regional Office of DEQ, located in Glen Allen, Virginia.
21. "Regulation" means the VPDES Permit Regulation, 9 VAC 25-31-10 *et seq.*
22. "State Water Control Law" means Chapter 3.1 (§ 62.1-44.2 *et seq.*) of Title 62.1 of the Va. Code.
23. "State waters" means all water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands. Va. Code § 62.1-44.3.
24. "SOP" means standard operating procedures.
25. "TMDL" means total maximum daily load.
26. "TOC" means total organic carbon.
27. "Va. Code" means the Code of Virginia (1950), as amended.
28. "VAC" means the Virginia Administrative Code.
29. "VDH" means Virginia Department of Health.

30. "VPDES" means Virginia Pollutant Discharge Elimination System.

SECTION C: Findings of Fact and Conclusions of Law

1. AdvanSix owns and operates the Facility in Chesterfield, Virginia. The Permit allows AdvanSix to discharge non-contact cooling water, air conditioning condensate, boiler blowdown, and stormwater from the Facility, to unnamed tributaries of the James and Appomattox Rivers in strict compliance with the terms and conditions of the Permit.
2. Unnamed tributary of the James River is located in the Lower James River Basin. During the 2016 Water Quality Assessment 305(b)/303(d) Integrated Report, the James River was assessed as a Category 5D water ("The water quality standard is not attained where TMDLs for a pollutant(s) have been developed but one or more pollutants remain requiring TMDL development.") The Aquatic Life Use is impaired due to inadequate submerged aquatic vegetation (SAV), chlorophyll a exceedances, and an altered benthic community. The Recreation Use is impaired due to E. coli. The Fish Consumption Use is impaired due to a VDH fish consumption advisory for PCBs; in addition, kepone, mercury, and arsenic are considered non-impairing observed effects. The Wildlife Use is considered fully supporting and the Public Water Supply Uses was not assessed.
3. The mouth of the Appomattox River was also considered a Category 5D water. The Aquatic Life Use is impaired due to inadequate submerged aquatic vegetation (SAV) and sediment bioassays (toxicity); benthic macroinvertebrate assessments, mercury, PCBs, and PAHs in sediment are observed effects. The Recreation Use is impaired due to E. coli. The Fish Consumption Use is impaired due to a VDH fish consumption advisory for PCBs; in addition, kepone is an observed effect. The Wildlife Use and Public Water Supply Use are fully supporting.
4. The bacterial TMDL for the Appomattox River was approved by the EPA on August 30, 2004 and by the Board on December 20, 2005; the Facility was not addressed. AdvanSix Chesterfield was addressed in the James River and Tributaries - City of Richmond Bacterial TMDL, which was approved by the EPA on November 4, 2010 and by the Board on June 29, 2012. The discharge was modeled in the TMDL; however, it was determined that they do not need a wasteload allocation because the permit does not require fecal coliform control. The Facility was addressed in the Chesapeake Bay TMDL, which was approved by the EPA on December 29, 2010. The TMDL allocates loads for total nitrogen, total phosphorus, and total suspended solids to protect the dissolved oxygen and SAV criteria in the Chesapeake Bay and its tidal tributaries. AdvanSix Chesterfield was included in the aggregated loads for non-significant wastewater dischargers in the lower tidal freshwater James River estuary (JMSTF1). The tributaries and the main-stem rivers are considered Tier 1 waters.

5. On August 27, 2016, AdvanSix notified the Department that lab results indicate an exceedance of the Permit limit for TOC at outfall 002 in that morning's composite sample. On August 31, 2016, AdvanSix, in a 5-day letter, reported a TOC concentration of 75.7 mg/L at outfall 002 to the Department. On, AdvanSix reported the TOC concentration of 75.7 mg/L on the August DMR, which the Department received on September 7, 2016. The Permit has a maximum concentration limit for total organic carbon of 10 mg/L.
6. AdvanSix informed the Department on December 29, 2016, that staff did not perform continuous temperature monitoring at outfall 002 on December 28, 2016.
7. On December 19, 2016, AdvanSix notified the Department that lab results indicate an exceedance of the Permit limit for TOC at outfall 002 in that morning's composite sample. On December 22, 2016, AdvanSix, in a 5-day letter, reported a TOC concentration of 34 mg/L at outfall 002 to the Department. AdvanSix reported a TOC concentration of 34 mg/L on the December DMR, which the Department received on January 9, 2017. The Permit has a maximum concentration limit for total organic carbon of 10 mg/L.
8. On March 1, 2017, the Department issued NOV No. 2017-02-P-0002 to AdvanSix for two TOC permit effluent violations and for failing to monitor for temperature continuously.
9. On March 29, 2017, the Department met with AdvanSix to discuss the NOV and the violations. AdvanSix outlined the development and implementation of its Responsible Care (RC 14001) principles that led to the Department's recommendation for admission into the Virginia Environmental Excellence Program. In regards to the TOC violations AdvanSix explained:
 - On August 27, 2016, the 24 hour composite sample TOC analysis from outfall 002 indicated a concentration of 75.7 mg/L versus a daily maximum permit limit of 10 mg/L. Compliance with the TOC daily limit resumed on August 28, 2016 and the monthly average of 5.0 mg/L was not exceeded. AdvanSix explained that the caprolactam raw material feed system has a noncontact hot water system in jacketed pipes. A leak developed in a jacketed pipe allowing caprolactam to contaminate the hot water and discharge through outfall 002. Once the source of high TOC was identified, AdvanSix informed DEQ and shut down required operations to flush, repair and pressure test the system.
 - On December 18, 2016, the 24 hour composite sample from outfall 002 tested at 33.7 mg/L versus a daily maximum permit limit of 10 mg/L. The TOC daily limit was met during all the other days in December 2016. AdvanSix explained that they experienced a process upset from 3:15 pm to 7:00 pm on Sunday the 18th that resulted in a discharge of an unknown volume of hot water containing lactam into a secondary containment area. A floor drain that AdvanSix has since removed carried contaminated flow to the river.

- In response to the temperature monitoring issue, AdvanSix stated that it had installed dual probes for backup, but one failed and both were installed on the same mounting staff. As a result, maintenance staff had to take both probes out of service to replace a failed probe. This caused a short period where there was no temperature monitoring, however AdvanSix does not believe that temperature levels went out of compliance with the permit during the downtime. The probes are now on separate mounting staffs.
10. On June 19, 2017, AdvanSix informed the Department that staff did not analyze for pH at outfalls 001 or 002 and therefore did not meet the required frequency of analysis for pH at outfalls 001 and 002.
 11. On August 26, 2017, AdvanSix notified the Department that lab results indicate an exceedance of the Permit limit for TOC (23.7 mg/L vs permit limit of 10 mg/L) at outfall 002 in that morning's composite sample. On August 30, 2017, AdvanSix, in a 5-day letter, reported a TOC concentration of 23.7 mg/L at outfall 002 to the Department. AdvanSix reported a TOC concentration of 24 mg/L on the August DMR, which the Department received on September 6, 2017.
 12. On January 8, 2018, AdvanSix notified the Department that lab results indicate an exceedance of the Permit limit for TOC at outfall 002 in that morning's composite sample. AdvanSix reported a TOC concentration of 34 mg/L on the January DMR, which the Department received on February 9, 2018. The Permit has a maximum concentration limit for total organic carbon of 10 mg/L.
 13. On March 29, 2018, the Department issued NOV No. W2018-03-P-0004 to AdvanSix for the two TOC permit effluent violations reported in August 2017 and January 2018.
 14. On April 19, 2018, AdvanSix responded to the NOV, submitting a letter explaining how the violations occurred. In regards to the TOC violations AdvanSix explained:
 - AdvanSix identified intermittent elevated TOC results at #90, 91, and 92 sampling points starting on August 20, 2017. Staff implemented its SOPs for identifying spills and malfunctioning equipment and discovered a leak in a pipe plug that separates a curb and a sump. The curbed area and sump were previously connected to a storm drain, but were disconnected approximately 13 years ago when the washwater was rerouted to NRR (Nylon Recycle and Recovery) for caprolactam recovery. The curbed area and sump were immediately isolated from the process and the washwater was drained to NRR. The 24-hour composite sample of Stream 002 exceeded the TOC limit on August 25, 2017. Daily samples taken before and after August 25 were in compliance.
 - The causes of the August violation were 1. A plastic pipe plug that eroded after years of use, 2. The boiler, which discharges to the storm drain near the curbed area, was not monitored for water quality, rendering a prolonged search for TOC sources, and 3. The current drawings did not show the previous change to the

sump and storm drain. AdvanSix permanently replaced the failed pipe plug with a concrete plug and corrected all of these items shortly after the effluent violation.

- On January 8, 2018, a steam line near Building 5 burst due to cold weather, which caused a nearby river water line to crack and fill the curbed area with river water. The curbed area holds vertical tank (VT-94), which contains and transfers washwater from horizontal tank (HT-18) to NRR. Filters between VT-94 and NRR were found to be frozen causing VT-94 to overflow. The mixture of river water and washwater overflowed the curbed area and entered the nearby drain. Upon discovering the river water pipe burst and curb area overflow, the site shut off the river water line as well as the production train. AdvanSix staff vacuumed out water in the curb area and sent it to NRR. The 24-hour composite sample of Stream 002 exceeded the TOC limit on January 8, 2018. Daily samples taken before and after January 8 were in compliance.
- The cause of the January violation was 1. Inadequate equipment preparation for extremely cold weather conditions, 2. Inadequate training and process knowledge communication such that VT-94 was not bypassed when the filter was frozen, and 3. Inadequate system safeguards (interlock) to protect against human error. AdvanSix has implemented a Facility wide winterization effort focusing on critical systems, trained staff on the importance of lockdown procedures and SOPs on responding to frozen lines, and implemented high level interlocks on HT-18 and VT-94.

15. Va. Code § 62.1-44.5 (A) states "[e]xcept in compliance with a certificate or permit issued by the Board or other entity authorized by the Board to issue a certificate or permit pursuant to this chapter, it shall be unlawful for any person to: 1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances; 2. Excavate in a wetland; 3. Otherwise alter the physical, chemical or biological properties of state waters and make them detrimental to the public health, or to animal or aquatic life, or to the uses of such waters for domestic or industrial consumption, or for recreation, or for other uses"
16. The Regulation, at 9 VAC 25-31-50, states "Prohibitions. A. Except in compliance with a VPDES permit, or another permit issued by the Board or other entity authorized by the Board, it shall be unlawful for any person to 1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances; 2. Otherwise alter the physical, chemical or biological properties of such state waters and make them detrimental to the public health, or to animal or aquatic life, or to the use of such waters for domestic or industrial consumption, or for recreation, or for other uses."
17. Part II.F of the Permit states "Except in compliance with this permit, or another permit issued by the Board, it shall be unlawful for any person to: 1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances; or 2. Otherwise alter the physical, chemical or biological properties of such state waters and make them detrimental to the public health, or to animal or aquatic life, or to the use of such waters for domestic or industrial consumption, or for recreation, or for other uses."

18. Part I.A.3 of the VPDES Permit VA0005312 states "During the period beginning with the permit's effective date and lasting until the permit's expiration date, the permittee is authorized to discharge from outfall serial number 002 (non-contact cooling water; boiler blowdown; and stormwater)."
19. Part I.A.3 of the Permit lists a monitoring frequency of "Continuous" for temperature at permitted outfall 002. Part I.A.1 and Part I.A.3 lists a monitoring frequency of "1 per Day" for pH at outfalls 001 and 002, respectively.
20. Part I.A.3 of the Permit contains a maximum concentration effluent limitation on TOC of 10 mg/L at outfall 002.
21. Va. Code § 62.1-44.15(5a) states that a VPDES permit is a "certificate" under the statute.
22. The Department has issued no water discharge permits or certificates to AdvanSix other than VPDES Permit No. VA0005312.
23. The unnamed tributaries of the James and Appomattox Rivers are surface waters located wholly within the Commonwealth and are "state waters" under State Water Control Law.
24. Based on the results of DMRs submitted by AdvanSix, the March 29, 2017 meeting, and the documentation submitted on March 29, 2017 and April 19, 2018, the Board concludes that AdvanSix has violated Va. Code 62.1-44.5, 9 VAC 25-31-50A, VPDES Permit VA0005312 Part I.A.1, Part I.A.3, Part II.F, by discharging industrial wastes from the Facility while concurrently failing to comply with the conditions of the Permit, as described above.
25. AdvanSix has submitted DMRs monthly from February 2018 to present showing there were no TOC exceedances, indicating that the corrective actions implemented following AdvanSix investigations were successful.

SECTION D: Agreement and Order

Accordingly, by virtue of the authority granted it in Va. Code §§ 62.1-44.15, the Board orders AdvanSix, and AdvanSix agrees to pay a civil charge of \$9,700 within 30 days of the effective date of the Order in settlement of the violations cited in this Order.

Payment shall be made by check, certified check, money order or cashier's check payable to the "Treasurer of Virginia," and delivered to:

Receipts Control
Department of Environmental Quality

Post Office Box 1104
Richmond, Virginia 23218

AdvanSix shall include its Federal Employer Identification Number (FEIN) with the civil charge payment and shall indicate that the payment is being made in accordance with the requirements of this Order for deposit into the Virginia Environmental Emergency Response Fund (VEERF). If the Department has to refer collection of moneys due under this Order to the Department of Law, AdvanSix shall be liable for attorneys' fees of 30% of the amount outstanding.

SECTION E: Administrative Provisions

1. The Board may modify, rewrite, or amend this Order with the consent of AdvanSix for good cause shown by AdvanSix, or on its own motion pursuant to the Administrative Process Act, Va. Code § 2.2-4000 *et seq.*, after notice and opportunity to be heard.
2. This Order addresses and resolves only those violations specifically identified in Section C of this Order. This Order shall not preclude the Board or the Director from taking any action authorized by law, including but not limited to: (1) taking any action authorized by law regarding any additional, subsequent, or subsequently discovered violations; (2) seeking subsequent remediation of the Facility; or (3) taking subsequent action to enforce the Order.
3. For purposes of this Order and subsequent actions with respect to this Order only, AdvanSix admits the jurisdictional allegations and agrees not to contest but neither admits nor denies the findings of fact and conclusions of law contained herein.
4. AdvanSix consents to venue in the Circuit Court of the City of Richmond for any civil action taken to enforce the terms of this Order.
5. AdvanSix declares it has received fair and due process under the Administrative Process Act and the State Water Control Law and it waives the right to any hearing or other administrative proceeding authorized or required by law or regulation, and to any judicial review of any issue of fact or law contained herein. Nothing herein shall be construed as a waiver of the right to any administrative proceeding for, or to judicial review of, any action taken by the Board to modify, rewrite, amend, or enforce this Order.
6. Failure by AdvanSix to comply with any of the terms of this Order shall constitute a violation of an order of the Board. Nothing herein shall waive the initiation of appropriate enforcement actions or the issuance of additional orders as appropriate by the Board or the Director as a result of such violations. Nothing herein shall affect appropriate enforcement actions by any other federal, state, or local regulatory authority.
7. If any provision of this Order is found to be unenforceable for any reason, the remainder of the Order shall remain in full force and effect.

8. AdvanSix shall be responsible for failure to comply with any of the terms and conditions of this Order unless compliance is made impossible by earthquake, flood, other acts of God, war, strike, or such other unforeseeable circumstances beyond its control and not due to a lack of good faith or diligence on its part. AdvanSix shall demonstrate that such circumstances were beyond its control and not due to a lack of good faith or diligence on its part. AdvanSix shall notify the DEQ Regional Director verbally within 24 hours and in writing within three business days when circumstances are anticipated to occur, are occurring, or have occurred that may delay compliance or cause noncompliance with any requirement of the Order. Such notice shall set forth:
 - a. the reasons for the delay or noncompliance;
 - b. the projected duration of any such delay or noncompliance;
 - c. the measures taken and to be taken to prevent or minimize such delay or noncompliance; and
 - d. the timetable by which such measures will be implemented and the date full compliance will be achieved.

Failure to so notify the Regional Director verbally within 24 hours and in writing within three business days, of learning of any condition above, which the parties intend to assert will result in the impossibility of compliance, shall constitute a waiver of any claim to inability to comply with a requirement of this Order.

9. This Order is binding on the parties hereto, and any successors in interest, designees and assigns, jointly and severally.
10. This Order shall become effective upon execution by both the Director or his designee and AdvanSix. Nevertheless, AdvanSix agrees to be bound by any compliance date which precedes the effective date of this Order.
11. This Order shall continue in effect until:
 - a. The Director or his designee terminates the Order after AdvanSix has completed all of the requirements of the Order;
 - b. AdvanSix petitions the Director or his designee to terminate the Order after it has completed all of the requirements of the Order and the Director or his designee approves the termination of the Order; or
 - c. the Director or Board terminates the Order in his or its sole discretion upon 30 days' written notice to AdvanSix.

Termination of this Order, or any obligation imposed in this Order, shall not operate to relieve AdvanSix from its obligation to comply with any statute, regulation, permit condition, other order, certificate, certification, standard, or requirement otherwise applicable.

12. Any plans, reports, schedules or specifications attached hereto or submitted by AdvanSix and approved by the Department pursuant to this Order are incorporated into this Order. Any non-compliance with such approved documents shall be considered a violation of this Order.
13. The undersigned representative of AdvanSix certifies that he or she is a responsible official [or officer] authorized to enter into the terms and conditions of this Order and to execute and legally bind AdvanSix to this document. Any documents to be submitted pursuant to this Order shall also be submitted by a responsible official of AdvanSix.
14. This Order constitutes the entire agreement and understanding of the parties concerning settlement of the violations identified in Section C of this Order, and there are no representations, warranties, covenants, terms or conditions agreed upon between the parties other than those expressed in this Order.
15. By its signature below, AdvanSix voluntarily agrees to the issuance of this Order.

And it is so ORDERED this _____ day of _____, 2019.

Kyle Ivar Winter, P.E.
Department of Environmental Quality
Piedmont Deputy Regional Director

AdvanSix Resins & Chemicals, LLC voluntarily agrees to the issuance of this Order.

Date: 9/6/19 By: Matthew C. Trahan Plant Manager
(Person) (Title)
AdvanSix Resins & Chemicals, LLC

Commonwealth of Virginia

City/County of CHESTERFIELD

The foregoing document was signed and acknowledged before me this 6TH day of

SEPTEMBER, 2019, by MATTHEW C. TRAHAN who is

PLANT MANAGER of AdvanSix Resins & Chemicals LLC, on behalf of the company.

Joan F. Elder
Notary Public
322161
Registration No.

My commission expires: MARCH 31, 2022

Notary seal:

